TS0MHUB4

USB 2.0 4-Port Hub

Description

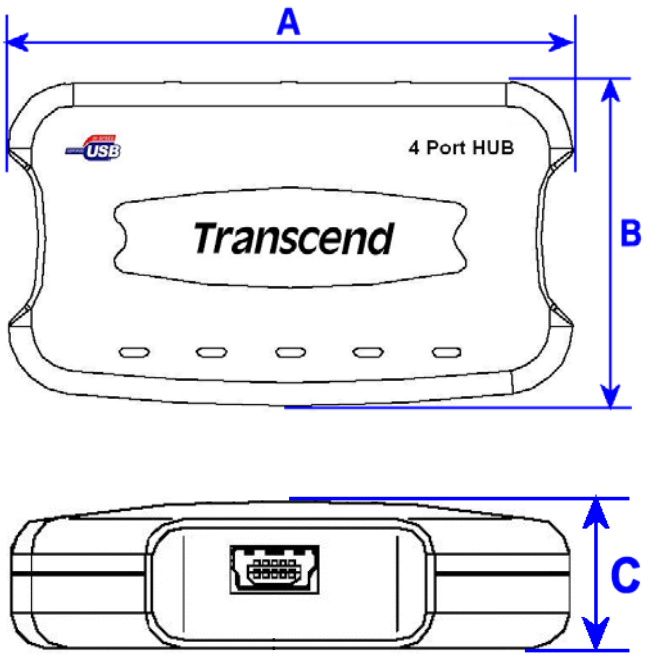
TS0MHUB4 is a USB 2.0 4-Port Hub. With increased 480 Mbps bandwidth, Transcend 4-Port Hub allows users to connect peripheral devices which consume a great deal of bandwidth, such as digital cameras/camcorders, scanners, printers, DVD/CD-RW drives, and other external storage devices to your desktop or notebook PC.

System Requirements

Desktop or notebook computer with USB port and one of following operating systems:

- Windows® 98/98SE, Windows® Me, Windows® 2000, or Windows® XP
- Mac™ OS 8.6 or later
- Linux Kernel 2.4 or later

Placement



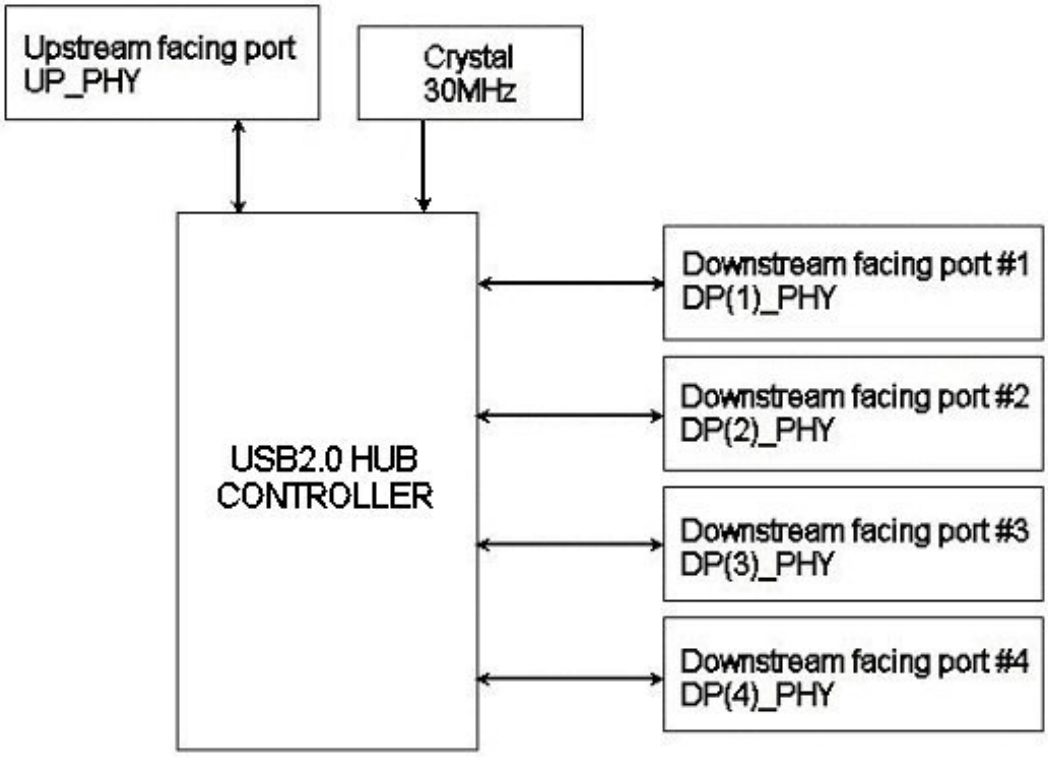
Features

- Fully compatible with USB 2.0 specification
- Fully backward compatible with USB 1.1 specification
- Plug and Play: automatic detection and installation of peripherals
- Hot Swappable: attach and detach USB devices when power on
- Data Transfer: Supports high-speed (480M bps), full-speed (12M bps), and low-speed (1.5M bps)
- Provides four USB Series A downstream ports
- Connects up to 127 devices through cascading multiple hubs
- Power LED indicates 4-Port Hub connected to an energized USB port
- LEDs for each USB port indicate device connected
- Supports self-powered mode only
- Supports both OHCI and EHCI
- Over-current detection and individual power control

Dimensions

Side	Millimeters	Inches
A	85.00 ± 1.00	3.35± 0.04
B	49.00 ± 1.00	1.93 ± 0.04
C	15.00 ± 1.00	0.59 ± 0.04

Block Diagram



Pinouts

Pin No.	Pin Name
01	VCC
02	USB-
03	USB+
04	VSS

Pin Identification

Symbol	Function
USB-	USB differential signal:
USB+	The pairs are used to transmit Data/Address/Command
VSS	Ground
VCC	USB power input

Absolute Maximum Ratings

Parameter	Symbol	Condition	Rating	Unit
Power supply voltage	V_{DD}		−0.5 to +4.6	V
Input voltage	V_I			
3.3 V input voltage		$V_I < V_{DD} + 0.5$ V	−0.5 to +4.6	V
5 V input voltage		$V_I < V_{DD} + 3.0$ V	−0.5 to +6.6	V
Output voltage	V_O			
3.3 V output voltage		$V_O < V_{DD} + 0.5$ V	−0.5 to +4.6	V
5 V output voltage		$V_O < V_{DD} + 3.0$ V	−0.5 to +6.6	V
Operating temperature	T_A		0 to +70	°C
Storage temperature	T_{stg}		−65 to +150	°C

Recommended Operation Conditions

Parameter	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Operating voltage	V_{DD}		3.14	3.30	3.46	V
High-level input voltage	V_{IH}					
3.3 V High-level input voltage			2.0		V_{DD}	V
5.0 V High-level input voltage			2.0		5.5	V
Low-level input voltage	V_{IL}					
3.3 V Low-level input voltage			0		0.8	V
5.0 V Low-level input voltage			0		0.8	V
Hysteresis voltage	V_H		0.3		1.5	V
Input rise time for SYSRSTB Note	t_r				10	ms
Reset time	t_{RST}		0.005		90	ms

Note: Drive Low on SYSRSTB pin when only in Power On Reset timing.

DC Characteristics

Parameter	Symbol	Condition	MIN.	MAX.	Unit
Off-state output leakage current	I_{OZ}	$V_O = V_{DD}$ or GND		±10	μA
Output short circuit current	I_{OS} Note			−250	mA
Low-level output current	I_{OL}				
3.3 V low-level output current		V_{OL} = 0.4 V	6		mA
3.3 V low-level output current		V_{OL} = 0.4 V	12		mA
5.0 V low-level output current		V_{OL} = 0.4 V	12		mA
High-level output current	I_{OH}				
3.3 V high-level output current		V_{OH} = 2.4 V	−6		mA
3.3 V high-level output current		V_{OH} = 2.4 V	−12		mA
5.0 V high-level output current		V_{OH} = 2.4 V	−2		mA

Note: The output short circuit time is one second or less and is only for one pin on the LSI.

Above technical information is based on industry standard data and tested to be reliable. However, Transcend makes no warranty, either expressed or implied, as to its accuracy and assumes no liability in connection with the use of this product. Transcend reserves the right to make changes in specifications at any time without prior notice.